

1 CLAIM LISTING

2
3 1. (Currently amended) An apparatus for controlling the system supply voltage in a system
4 utilizing a spread spectrum clock signal, the apparatus including:

5 (a) a modulating arrangement operatively connected to apply a first modulation to
6 one of the system supply voltage or a clock signal frequency for the system, the
7 first modulation varying the one of the system supply voltage or clock signal
8 frequency about a nominal value for the one of the system supply voltage or clock
9 signal frequency; and

10 (b) a corresponding modulating arrangement operatively connected to apply a
11 corresponding modulation to the other one of the system supply voltage or the
12 clock signal frequency, the corresponding modulation varying the other one of the
13 system supply voltage or the clock signal frequency about a nominal value for the
14 other one of the system supply voltage or the clock signal frequency.

15
16 2. (Original) The apparatus of Claim 1 further including a power supply circuit, and
17 wherein:

18 (a) the modulating arrangement includes a modulator connected to provide a
19 modulated signal to a reference input to the power supply circuit; and

20 (b) the corresponding modulating arrangement includes an arrangement for applying
21 the system supply voltage to control modulation of the clock signal frequency.
22

1 3. (Original) The apparatus of Claim 2 wherein the modulator is connected between a DC
2 reference voltage source and the reference input of the power supply circuit.

3
4 4. (Original) The apparatus of Claim 2 further including a spread spectrum clock source and
5 wherein the system supply voltage is used to produce a modulation signal for a
6 modulation input to the spread spectrum clock source.

7
8 5. (Original) The apparatus of Claim 4 further including:

9 (a) a signal translator connected to receive the system supply voltage and provide a
10 translated output to the modulation input of the spread spectrum clock source.

11
12 6. (Original) The apparatus of Claim 1 further comprising a spread spectrum clock source
13 having a modulation input, and wherein the modulating arrangement includes a
14 modulation signal source having an output connected to the modulation input of the
15 spread spectrum clock source.

16
17 7. (Original) The apparatus of Claim 6 further including a power supply circuit having a
18 reference input, and wherein the modulation signal source output is applied to modulate
19 the signal at the reference input.

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21 8. (Currently amended) The apparatus of Claim 7 further including a summing junction
22 connected to sum a DC reference voltage and the modulation signal source output to

1 produce[[d]] a summed output and apply the summed output to the reference input of the
2 power supply circuit.

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4 9. (Original) The apparatus of Claim 1 wherein the first modulation and the corresponding
5 modulation comprise unequal waveforms.

6
7 10. (Currently amended) A spread spectrum clock system including:

- 8 (a) a spread spectrum clock source having a frequency modulation input and
9 providing a clock signal;
- 10 (b) a power supply circuit providing a supply voltage output;
- 11 (c) a modulating arrangement operatively connected to apply a first modulation to
12 one of the supply voltage output or the frequency of the clock signal, the first
13 modulation varying the one of the supply voltage output or the frequency of the
14 clock signal about a nominal value for the one of the supply voltage output or the
15 frequency of the clock signal; and
- 16 (d) a corresponding modulating arrangement operatively connected to apply a
17 corresponding modulation to the other one of the supply voltage output or the
18 frequency of the clock signal, the corresponding modulation varying the other one
19 of the supply voltage output or the frequency of the clock signal about a nominal
20 value for the other one of the supply voltage output or the frequency of the clock
21 signal.
- 22

1 11. (Original) The apparatus of Claim 10 wherein:

2 (a) the modulating arrangement comprises a modulator connected to provide a
3 modulated reference input to the power supply circuit; and

4 (b) the corresponding modulating arrangement includes an arrangement for applying
5 the system supply voltage output to control modulation of the clock signal
6 frequency.
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8 12. (Original) The apparatus of Claim 11 further including:

9 (a) a signal translator connected to receive the system supply voltage output and
10 provide a translated output to the frequency modulation input of the spread
11 spectrum clock source.
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13 13. (Original) The apparatus of Claim 10 wherein the modulating arrangement comprises a
14 modulation signal source having an output connected to the frequency modulation input
15 to the spread spectrum clock source.
16

17 14. (Original) The apparatus of Claim 13 wherein the modulation signal source output is
18 applied to modulate a signal applied to a reference input of the power supply circuit.
19

20 15. (Original) The apparatus of Claim 14 further including a summing junction connected to
21 sum a DC reference voltage and the modulation signal source output and apply a
22 modulated DC output to the reference input of the power supply circuit.

- 1 16. (Original) The apparatus of Claim 10 wherein the first modulation waveform and the
2 corresponding modulation waveform are unequal.
3
- 4 17. (Currently amended) A method for providing a spread spectrum clock signal for a circuit,
5 the method including the steps of:
6 (a) modulating a power supply signal for the circuit at a first modulation to vary the
7 power supply signal about a nominal supply voltage; and
8 (b) modulating the frequency of the clock signal for the circuit at a corresponding
9 modulation to vary the frequency of the clock signal about a nominal clock signal
10 frequency.
11
- 12 18. (Currently amended) The method of Claim 17 wherein the step of modulating [[in]] the
13 power supply signal for the circuit includes the step of:
14 (a) modulating a reference voltage input to a power supply for the circuit.
15
- 16 19. (Original) The method of Claim 17 wherein the step of modulating the frequency of the
17 clock signal for the circuit includes the step of:
18 (a) conditioning the modulated power supply signal for the circuit to produce a
19 conditioned signal at the first modulation frequency; and
20 (b) applying the conditioned signal to a modulation input of a clock source circuit.
21
- 22 20. (Original) The method of Claim 17 wherein the step of modulating the frequency of the

1 clock signal for the circuit comprises:

2 (a) applying a modulation signal source output to a modulation input of a clock
3 source circuit.

4
5 21. (Original) The method of Claim 20 wherein the step of modulating the power supply
6 signal for the circuit includes:

7 (a) applying the modulation signal source output to modulate a reference voltage
8 input to a power supply circuit.

9
10 22. (Original) The method of Claim 21 wherein the step of applying the modulation signal
11 source output to modulate a reference voltage input comprises the step of:

12 (a) summing the modulation signal source output with a DC reference voltage source
13 signal.

14
15 23. (Original) The method of Claim 17 wherein the first modulation waveform and the
16 corresponding modulation waveform are unequal.